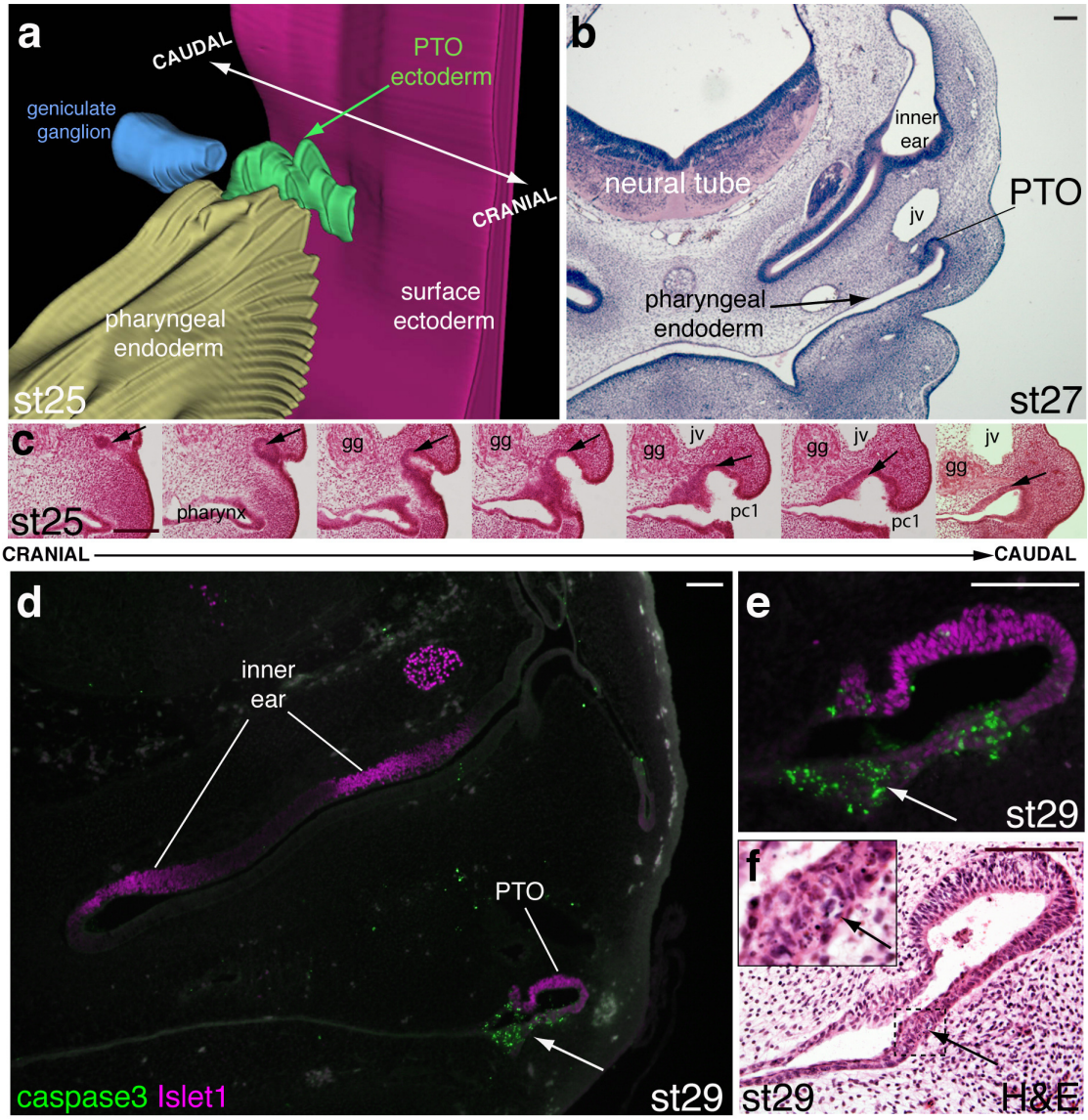

Supplementary Figure S1. Morphogenesis of the paratympanic organ.

(**a**) Captured image from 3-dimensional reconstruction of the paratympanic organ (PTO) and surrounding tissues at stage 25 (E4.5) in chick. A local invagination of surface ectoderm (green) fuses with the pharyngeal endoderm (yellow).

(**b**) Transverse haematoxylin and eosin (H&E) stained section showing that internalised PTO ectoderm is associated with the tip of the pharyngeal pouch at stage 27 (E5). (**c**) Serial H&E stained sections through the PTO region 12 hours earlier at stage 25 (E4.5) highlighting proximity of the first pharyngeal cleft (pc1), which remains open at this stage. (**d**) Transverse section of PTO region at stage 29 (E6) immunostained for Islet1 (magenta) and activated caspase-3 (green) to highlight apoptotic cells. There are foci of apoptotic cells (green) ventromedial to the PTO (arrow). (**e**) Magnified view of apoptotic cells (green) adjacent to the PTO (arrow). (**f**) H&E staining of the same region reveals apoptotic bodies (arrow).

Scale bars: 100µm. gg, geniculate ganglion; jv, jugular vein.